The Case of the Missing Diamond Block

Grade 4 math · Place value, Multiplication, Skip counting, Rounding, Division · Reading level grades 1-2

Detective: _____ **Date:** _____

Someone snuck into the Crafttopia Village hall and stole the golden trophy block! The villain left blocky clues behind. Work with the village team to find the griefer!

1. Solve each math problem. The answer is a number, and the letter beside it is what that number stands for.
2. In the clue boxes, write that letter in every box showing the same number, then read the secret clue.
3. Use each clue to cross suspects off the list. The one suspect left at the end is the culprit!

My answer: the griefer is _____

Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

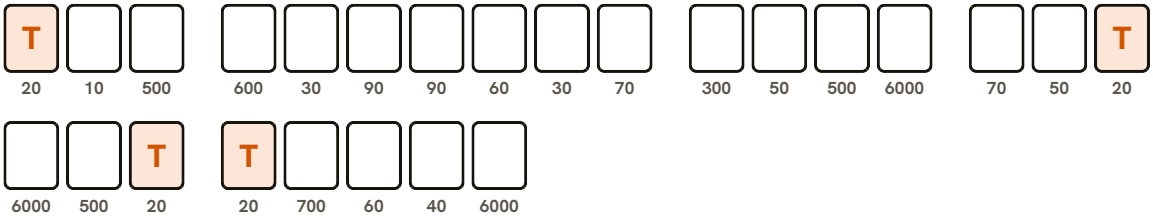
NAME	SPECIAL SKILL	SECONDARY ABILITY	HEADGEAR	HAIR STYLE	ITEM WEAKNESS
Quinn Pickaxe	flying elytra	building bridges	wears iron helmet	square yellow hair	splash potion
Dakota Nether	super mining	spawning zombies	wears diamond helmet	square brown hair	water bucket
Taylor Pixel	taming creepers	crafting TNT	wears diamond helmet	square black hair	golden apple
Sam Block	flying elytra	brewing potions	wears iron helmet	square brown hair	water bucket
River Biome	flying elytra	setting traps	wears diamond helmet	square black hair	splash potion
Riley Obsidian	taming creepers	spawning zombies	wears iron helmet	square yellow hair	golden apple
Jesse Hopper	lava floating	spawning zombies	wears diamond helmet	square yellow hair	golden apple
Skyler Pixel	flying elytra	building bridges	wears diamond helmet	square brown hair	water bucket
Shiloh Dispenser	super mining	setting traps	wears diamond helmet	square yellow hair	splash potion
Kai Cobble	lava floating	brewing potions	wears diamond helmet	square yellow hair	water bucket
Reese Lapis	taming creepers	crafting TNT	wears iron helmet	square yellow hair	golden apple
Casey Emerald	super mining	brewing potions	wears diamond helmet	square black hair	water bucket
Alex Craft	super mining	spawning zombies	wears iron helmet	square black hair	golden apple
Dallas Glider	flying elytra	setting traps	wears iron helmet	square yellow hair	golden apple
Avery Torch	flying elytra	building bridges	wears iron helmet	square brown hair	splash potion
Harper Bedrock	teleporting	brewing potions	wears diamond helmet	square yellow hair	water bucket
Rowan Shovel	teleporting	setting traps	wears iron helmet	square yellow hair	water bucket
Finley Dropper	flying elytra	crafting TNT	wears iron helmet	square yellow hair	golden apple
Jordan Redstone	flying elytra	building bridges	wears iron helmet	square brown hair	golden apple
Morgan Cube	taming creepers	setting traps	wears iron helmet	square brown hair	splash potion
Sawyer Piston	lava floating	spawning zombies	wears iron helmet	square yellow hair	golden apple

make your own at mathcrackers.com

CLUE 1 Place value

You inspect the redstone lock display. The digits show place values for thousands, hundreds, tens, and ones.

Solve each problem, then write its letter in every clue box that shows the same number.



What is the value of the 2 in 3,829? ☐ → **T**

What is the value of the 6 in 9,687? ☐ → **V**

What is the value of the 5 in 4,521? ☐ → **E**

What is the value of the 5 in 454? ☐ → **O**

What is the value of the 6 in 6,439? ☐ → **S**

What is the value of the 3 in 936? ☐ → **I**

What is the value of the 3 in 308? ☐ → **D**

What is the value of the 1 in 619? ☐ → **H**

What is the value of the 6 in 163? ☐ → **A**

What is the value of the 7 in 4,712? ☐ → **R**

What is the value of the 4 in 7,249? ☐ → **P**

What is the value of the 9 in 797? ☐ → **L**

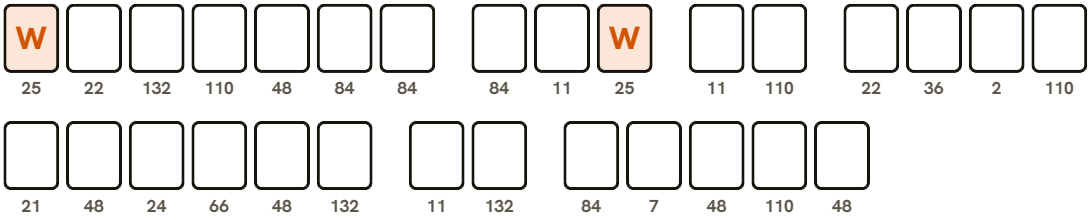
What is the value of the 7 in 5,879? ☐ → **N**

Scratch space:

CLUE 2 Multiplication facts (1-12)

> You find rows of carved sandstone blocks arranged in equal groups.

Solve each problem, then write its letter in every clue box that shows the same number.



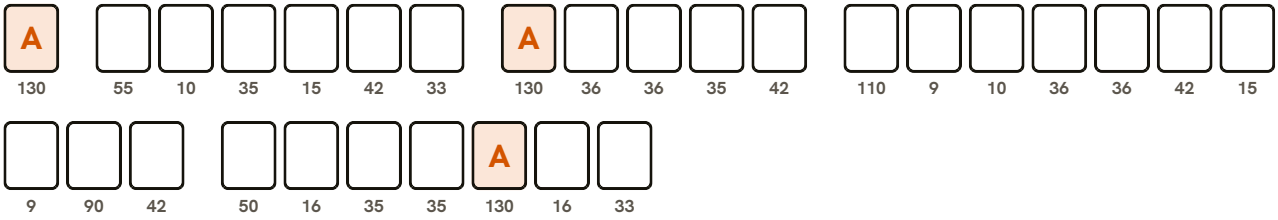
- 5 × 5 = ☐ → W
- 3 × 7 = ☐ → H
- 12 × 11 = ☐ → T
- 10 × 11 = ☐ → N
- 2 × 11 = ☐ → I
- 1 × 2 = ☐ → O
- 3 × 8 = ☐ → L
- 6 × 11 = ☐ → M
- 1 × 11 = ☐ → A
- 4 × 12 = ☐ → E
- 1 × 7 = ☐ → C
- 4 × 9 = ☐ → R
- 7 × 12 = ☐ → S

Scratch space:

CLUE 3 Skip counting

Footprints cross the block bridge in equal steps of two.

Solve each problem, then write its letter in every clue box that shows the same number.



Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 ☐ → **A**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, ___, 45, 48 ☐ → **E**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 ☐ → **G**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 ☐ → **P**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, ___, 12, 14 ☐ → **O**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, ___, 18, 20 ☐ → **I**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ___, 36, 39 ☐ → **N**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 ☐ → **H**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, ___, 55, 60 ☐ → **V**

Skip-count by 3s. Fill the blank: 3, 6, ___, 12, 15 ☐ → **T**

Skip-count by 5s. Fill the blank: 5, 10, ___, 20, 25 ☐ → **D**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, ___, 40, 45 ☐ → **L**

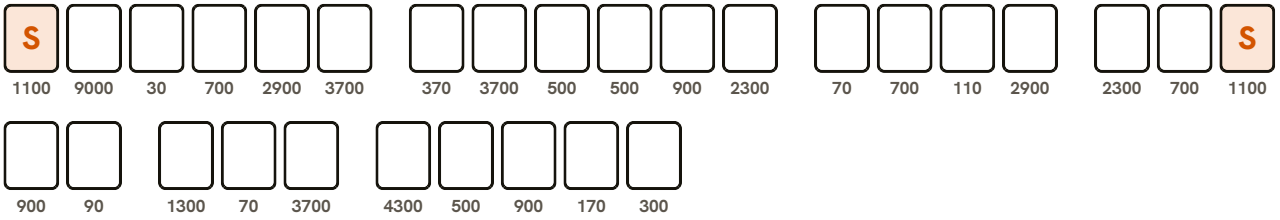
Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, ___, 120, 130 ☐ → **S**

Scratch space:

CLUE 4 Rounding

The beacon radar system only shows rounded estimates of distances.

Solve each problem, then write its letter in every clue box that shows the same number.



Round 1,123 to the nearest hundred ☐ → S

Round 1,312 to the nearest hundred ☐ → T

Round 70 to the nearest ten ☐ → H

Round 459 to the nearest hundred ☐ → L

Round 3,743 to the nearest hundred ☐ → E

Round 170 to the nearest ten ☐ → C

Round 890 to the nearest hundred ☐ → O

Round 9,346 to the nearest thousand ☐ → Q

Round 33 to the nearest ten ☐ → U

Round 348 to the nearest hundred ☐ → K

Round 735 to the nearest hundred ☐ → A

Round 4,337 to the nearest hundred ☐ → B

Round 112 to the nearest ten ☐ → I

Round 2,267 to the nearest hundred ☐ → W

Round 2,885 to the nearest hundred ☐ → R

Round 94 to the nearest ten ☐ → N

Round 374 to the nearest ten ☐ → Y

Scratch space:

CLUE 5 Division facts (1-12) - the last clue

> A chest holds leftover iron ingots split equally among local guards.

First solve each problem. Then find each answer in the numbered list below and cross that sentence out. One sentence will be left - that is exactly what the villain did!

Step 1 - solve these:

11 ÷ 11 = ☐	24 ÷ 12 = ☐	48 ÷ 6 = ☐	28 ÷ 4 = ☐	60 ÷ 12 = ☐
99 ÷ 11 = ☐	40 ÷ 4 = ☐	48 ÷ 4 = ☐	66 ÷ 11 = ☐	16 ÷ 4 = ☐
24 ÷ 8 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain marched in with tamed creepers, then crafted TNT to blast the door.
2. The villain floated across a lava moat, then spawned zombies in the hallway.
3. The villain teleported into the vault, then brewed invisibility potions.
4. The villain teleported into the vault, then spawned zombies in the hallway.
5. The villain mined through solid bedrock, then built bridges across the ravine.
6. The villain mined through solid bedrock, then set traps near the spawn point.
7. The villain marched in with tamed creepers, then built bridges across the ravine.
8. The villain marched in with tamed creepers, then spawned zombies in the hallway.
9. The villain mined through solid bedrock, then brewed invisibility potions.
10. The villain mined through solid bedrock, then spawned zombies in the hallway.
11. The villain glided down on elytra wings, then crafted TNT to blast the door.
12. The villain glided down on elytra wings, then built bridges across the ravine.

TEACHER / PARENT

Answer Key

The Case of the Missing Diamond Block

Culprit: Finley Dropper

flying elytra · crafting TNT · wears iron helmet · square yellow hair · golden apple

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT SET TRAPS"

What is the value of the 2 in 3,829? = 20 (T) · What is the value of the 6 in 9,687? = 600 (V) · What is the value of the 5 in 4,521? = 500 (E) · What is the value of the 5 in 454? = 50 (O) · What is the value of the 6 in 6,439? = 6000 (S) · What is the value of the 3 in 936? = 30 (I) · What is the value of the 3 in 308? = 300 (D) · What is the value of the 1 in 619? = 10 (H) · What is the value of the 6 in 163? = 60 (A) · What is the value of the 7 in 4,712? = 700 (R) · What is the value of the 4 in 7,249? = 40 (P) · What is the value of the 9 in 797? = 90 (L) · What is the value of the 7 in 5,879? = 70 (N)

Clue 2 (Multiplication facts (1-12)): "WITNESS SAW AN IRON HELMET AT SCENE"

5 × 5 = 25 (W) · 3 × 7 = 21 (H) · 12 × 11 = 132 (T) · 10 × 11 = 110 (N) · 2 × 11 = 22 (I) · 1 × 2 = 2 (O) · 3 × 8 = 24 (L) · 6 × 11 = 66 (M) · 1 × 11 = 11 (A) · 4 × 12 = 48 (E) · 1 × 7 = 7 (C) · 4 × 9 = 36 (R) · 7 × 12 = 84 (S)

Clue 3 (Skip counting): "A GOLDEN APPLE STOPPED THE VILLAIN"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 = 130 (A) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, ___, 45, 48 = 42 (E) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 = 55 (G) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 = 36 (P) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, ___, 12, 14 = 10 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, ___, 18, 20 = 16 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ___, 36, 39 = 33 (N) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 = 90 (H) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, ___, 55, 60 = 50 (V) · Skip-count by 3s. Fill the blank: 3, 6, ___, 12, 15 = 9 (T) · Skip-count by 5s. Fill the blank: 5, 10, ___, 20, 25 = 15 (D) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, ___, 40, 45 = 35 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, ___, 120, 130 = 110 (S)

Clue 4 (Rounding): "SQUARE YELLOW HAIR WAS ON THE BLOCK"

Round 1,123 to the nearest hundred = 1100 (S) · Round 1,312 to the nearest hundred = 1300 (T) · Round 70 to the nearest ten = 70 (H) · Round 459 to the nearest hundred = 500 (L) · Round 3,743 to the nearest hundred = 3700 (E) · Round 170 to the nearest ten = 170 (C) · Round 890 to the nearest hundred = 900 (O) · Round 9,346 to the nearest thousand = 9000 (Q) · Round 33 to the nearest ten = 30 (U) · Round 348 to the nearest hundred = 300 (K) · Round 735 to the nearest hundred = 700 (A) · Round 4,337 to the nearest hundred = 4300 (B) · Round 112 to the nearest ten = 110 (I) · Round 2,267 to the nearest hundred = 2300 (W) · Round 2,885 to the nearest hundred = 2900 (R) · Round 94 to the nearest ten = 90 (N) · Round 374 to the nearest ten = 370 (Y)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Finley Dropper

11 ÷ 11 = 1 · 24 ÷ 12 = 2 · 48 ÷ 6 = 8 · 28 ÷ 4 = 7 · 60 ÷ 12 = 5 · 99 ÷ 11 = 9 · 40 ÷ 4 = 10 · 48 ÷ 4 = 12 · 66 ÷ 11 = 6 · 16 ÷ 4 = 4 · 24 ÷ 8 = 3